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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/587,394	06/05/2000	Raoul Florent	PHF 99,548	8430

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BRIARCLIFF MANOR, NY 10510

EXAMINER

PATEL, SHEFALI D

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 11/05/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/587,394

Applicant(s)

FLORENT, RAOUL

Examiner

Shefali D Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. In canceling claims 1-14 by the applicant in an amendment filed on September 8, 2003...
  - a. Objections to the claims 3, 10 and 14 have been withdrawn.
  - b. 112 2<sup>nd</sup> paragraph rejections to the claims 3 and 7 have been withdrawn.
  - c. 112 1<sup>st</sup> paragraph rejections to the claims 1-15 have been withdrawn.
2. Applicant states on page 5 of the amendment that the substitute specification has been submitted concurrently with the amendment. However, the office has not received this specification.
3. Applicant states on page 6 of the amendment that the drawing amendment has been submitted concurrently with the amendment for substituted drawing sheet 1/3. However, the office has not received these drawing amendments.

### ***Response to Arguments***

1. Claims 16-29 have been newly added.
2. Applicant's arguments filed on September 8, 2003 have been fully considered but they are not persuasive. Applicant argues in Remarks starting on page 13 regarding claim 1 rejection under 35 U.S.C. 103(a). Applicant traverses this rejection due to the unequivocal teaching away by *Sethian* of "a second processing step of performing a second path-tracking operation for employing a technique for supplying a best path from a first track of the at least one first track by back propagating the front starting at the end point and going through already determined children and corresponding fathers until the start point is reached." The examiner disagrees. The examiner has provided reasons as well as a motivation for combining these two references to

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arrive at the claimed invention. However, since claims 1-15 have been cancelled, the argument as to claim 1 is moot. For the claims 16-29, the references of Sethian and Ito have been applied in rejecting these claims (see the description below).

3. The new 112 1<sup>st</sup> paragraph rejection is made to claims 28 and 29 similar to those made in previous claims 1-15 (see below).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 18-20, 26-27 and 28-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant refers to the processing phase and the “Filiation Front Marching technique” with respect to Figures 2A to 2C on page 7 lines 22 to page 11 line 23. Nevertheless, the claim language is yet unclear from the specification at least for the details of the Filiation Front Marching technique as claimed in claim 20 lines 2-3; claim 28 line 10 (on page 11) and claim 29 line 3 (on pages 10-11). The relationship between the “City Block Distance” (claim 29 line 17) and the “Cumulated Costs” (claim 18 page 8 line 2; claim 19 lines 4-5; claim 29 lines 13-14 and 23) is also unclear from the specification.

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6. **Claim 26** mentions “Local Events” and “Global events” on page 10 line 1. The description is not clear and therefore understandable from the specification as these features are disclosed on page 12 lines 13 and 29.

Claim 27 is rejected because it depends on the rejected claim 26.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 21-23 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: In claim 21, applicant does not define what the elements ‘j’ and ‘k’ represent in the equation (1). In claim 22, applicant does not define the variable  $Q_k$ . In claim 27, applicant does not define the variables  $\alpha$  and  $Q_K$ . Please define these variables in each claim accordingly. Claim 23 is rejected because it depends on the rejected claim 22.

#### ***Claim Objections***

9. Claims 24 and 25 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims 24 and 25 not been further treated on the merits. Note: claim 24 depends on claim 25 where claim 25 depends on claim 24.

#### ***Claim Rejections - 35 USC § 103***

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10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sethian (“A fast marching level set method for monotonically advancing fronts, “ Applied Mathematics) in combination with Ito (USPN 5,067,166).

With regard to **claim 16** Sethian discloses an image processing method of extracting points of a path following a threadlike structure in an image formed by a grid of potential points (page 1592, column 2 lines 10-16), the image processing method comprising: marching a front of points forward starting at a predetermined start point until a predetermined end point (page 1593 column 1 last paragraph to column 2, note the “Marching Forward” method on page 1593 second column) of the grid is reached to thereby identify a first track formed by succeeding points denoted fathers (i.e., smaller values) and corresponding children (i.e., larger values) of the threadlike structure (See, page 1593, col. 1 last 4 lines to col. 2 lines 1-13). Sethian does not expressly disclose back propagating the front along the first track starting at the end point through the children and the fathers of the first track until the start point is reached whereby the points of the path following the threadlike structure in the image are extracted. However Ito discloses back propagating the front along the first track (See, col. 8 lines 30-32) starting at the end point (point ‘k’) through the children (point ‘i’) and the fathers (point ‘a’) of the first track until the start point is reached whereby the points of the path following the threadlike structure in the image are extracted (See, col. 8 lines 67-68 to col. 9 lines 1-13). Sethian and Ito are

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combinable because they are from the same field of endeavor, i.e. processing a tree like structure. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Ito with Sethian. The motivation for doing so is to have the back propagating step of Ito for back tracking the branch (i.e., structure) to select the best path so that the access path with the minimum distance can be detected relatively fast by determining best branches as suggested by Ito at col. 10 lines 66-68 to col. 11 lines 1-2 and lines 15-22. Therefore, it would have been obvious to combine Ito with Sethian to obtain the invention as specified in claim 16.

With regard to **claim 17** Sethian discloses conditionally selecting a first child of the grid to succeed a first father of the grid to form the first track (Sethian obtain a first track by selecting a first child (i.e., large value of T) after selecting a first father (i.e., small value of T). See, page 1593 col. 1 last 2 lines to col. 2 lines 1-5).

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

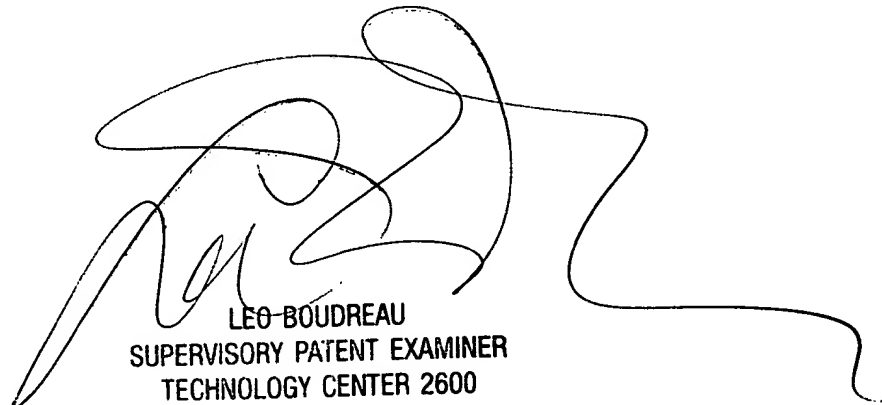
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Shefali D Patel  
Examiner  
Art Unit 2621

October 20, 2003



LEO-BOUDREAU  
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